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School choice, gender and household characteristics: Evidence from a household survey in a poor area of Monrovia, Liberia.

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Abstract

This research set out to investigate how, in a post conflict area, parental preferences and household characteristics affect school choice. A multinomial logit is used to model the relationship between education preferences and the selection of schools for 1236 households in Monrovia, Liberia. There is a large statistically significant preference for community and faith based schools where the school being safe and close to home is important to parents. Government schools are favoured over other types by parents who state that affordability is a main preference. The more children in the family and the older the child the likelihood increases of attending a government school. Occupation and higher parental educational attainment are not significant characteristics in this school choice model.

JEL Classifications: I25, I24, I28

Key words: civil war, household choice, preferences, fragile states, Liberia

1. Context

In 1822, Liberia was founded as a colony by the American Colonization Society (ACS) for former slaves, who were now free, and able to be repatriated to Africa. Freed slaves and freeborn African-Americans landed first in Liberia and many decided to settle amongst the indigenous population made up of 17 socio-cultural groups[1]. The colony became independent in 1847 being lead by the settler minority known as the Americo-Liberians (UNESCO, 2011a). The Americo-Liberians, set up a dualistic system dominated politically by the True Whig Party (TWP) (GoL. 2009). The Americo-Liberians built separate political, economic and social institutions in order to promote their own interests and domination (Ngaima, 2014). Monrovia became the focus for the development of services and infrastructure, thus the indigenous rural population failed to benefit

[1] The different cultural groups included the Americo-Liberians and 16 indigenous groups: Bassa, Gbandi, Gio, Dei, Gola, Grebo, Kissi, Kpelle, Krahn, Kru, Kuwaa, Loma, Ma, Madingo, Mende, and Vai

resulting in a history of tensions (UNESCO, 2011a). The Americo-Liberians set up schools to cater for their own children, in order to perpetuate economic and political dominance (Lanier, 1961; Moran, 2006). Indigenous children attended poro (boy) and sande (girl) 'schools' which operated outside of the formal education system (Moran, 2006). This exclusion and marginalization in education only added to resentment fostering fragility (Eze and Saa, 2013).

Several attempts were made to reform the domination of the minority elite by two presidents, Tubman (1944-1971) and Tolbert (1971-1979). However the attempts were unsuccessful and finally resulted in riots and protests, culminating in a military coup, the assassination of Tolbert and military control by Samuel Doe, a member of the indigenous Krahn tribe. This ended 133 years of Americo-Liberian domination. However, what followed was much of the same, Doe setting up a government system to benefit his own ethnic group, which only represented 4% of the population (Paris, 2004). A fraudulent election designated Doe as the first president of Liberia's Second Republic (UNESCO, 2011a). In 1989 an invasion by the National Patriotic Front of Liberia (NPFL) from Côte d'Ivoire started a civil war lasting until 2003, all be it with attempts at peace agreements in 1996. The legacy of the civil war brought many challenges for the new female head of state, Ellen Johnson Sirleaf who became President of Liberia in 2006. The challenges include the collapse of the economy as well as the destruction of physical infrastructure, institutions and basic services. A Poverty Reduction Strategy (PRS) was put in place 2008-2012. Priorities were given to security, the economy, governance and the rule of law and the delivery of basic services including education (GoL, 2008).

The civil war resulted in the destruction and disruption of the schooling system. It has been estimated that one third of government schools and one quarter of community schools were destroyed. Other schools were damaged through looting and demolition. Many teachers fled the fighting fearing for their own lives as well as their pupils; children were abducted from schools to be conscripted into the fighting forces (UNESCO, 2011b). According to the GoL (2008) 'the majority of Liberia's young people have spent more time engaged in war than in school' (p. 185).

Several government initiatives have been instigated to provide education for all children, focusing on the most disadvantaged, including the Liberian Primary Education Recovery Program (LPERP), the interim Poverty Reduction Strategy (iPRS), the Poverty Reduction Strategy (PRS) and the Education Section Plan (ESP). The 2001 Liberian Education Law prescribed that primary education be made compulsory and primary school fees abolished. According to UNESCO (2011a) owing to government failure to implement its strategies around school access, some household's expenditure reaches 24% for schooling. Why? Owing to the lack of government provision, parents turn to non-public schools, which include private proprietors, faith based mission, concession sponsored and community schools that are able to set their own fee structures (UNESCO, 2011a). Mission schools representing religious beliefs in Liberia (Methodist, Catholic, Baptist, Lutheran, Islamic, Seventh Day Adventist, Assembly of God, and Inland Mission) are typically funded through tuition fees, however some receive support from church groups or religious non-government organizations (Siaplay and Werker, 2013). Independent private proprietor schools are run by individuals, funded by student fees, with the potential to make surpluses or profits (Johannessen, 2006). Community groups also run schools in Liberia and are typically not for profit (Tooley and Longfield, 2013).

The principal roots for fragility and the cause of conflict in Liberia have stemmed from the levels of poverty, inequality and unequal access to assets and opportunities (Herbert, 2014; Richards et al., 2005). The unequal access to basic services including education continues to call into question the 'legitimacy of the state itself' (UNESCO, 2011b, p.160). According to UNESCO (2011a) there is a weakening of 'people's trust in the government's capacity and willingness to provide essential services' (p.35). In order for peace and stability to be maintained the gaps in education provision, which in turn lead to poor economic prospects for the uneducated and disadvantaged, need to be narrowed. This lack of educational opportunity could lead to resentment, instability, and the continued dearth of economic development (UNESCO, 2011a).

One third of Liberia's population has no education, 31% only primary and 36% secondary and tertiary education. Within Liberia there are great disparities regarding school enrolment rates. For example to the north of Monrovia, in Bomi

county, the enrolment rate at primary level is estimated at 66 per cent. However to the south of Monrovia in Grand Bassa county the primary enrolment rate is only 14 per cent. Variations are also found at other schooling levels – junior high and senior secondary (UNESCO, 2011a). Disparities could be greater as country averages 'mask variations within counties, between urban and rural, and isolated areas' (UNESCO, 2011a, p. 35). Monrovia is situated in Montserrado county, where about one third of Liberians live with the greatest population density in the country of around 1,500 people per square mile (LISGIS, 2009). According to the 2008 Census, around 61 per cent of the Montserrado population is attending school compared to 35 per cent living in Grand Bassa County. Owing to these disparities and the historical context in which Monrovia was developed as a capital and Doe as a community within that region, the findings reported in this study specifically relate to this context. Regarding religion, 40% are Christian, 40% practice traditional African religions and the remaining 20% are Muslim (UNDP, 2006). Monrovia is the capital city of Liberia located on the Atlantic Coast where more than 30% of the country's population lives[2]. In 2010 the literacy rate was reported at 60.8% and primary school completion rates were 59%[3]. Life expectancy at birth is currently 60.21 years[4].

2. School Choice in Developing Countries

In many areas of the developing world poor parents are sending their children to a variety of school management types. Over the past few decades research has revealed that in many sub-Saharan African countries as well as in India, low fee private schools have become an option for poor parents (Tooley, 2009; Dixon, 2013; Dixon et al, 2015; Stanfield, 2015; Alderman et al, 2001; Ngware et al., 2009; Rose, 2009; Tooley et al, 2005: Mehrotra and Panchamukhi 2007; Walford, and Srivastava, 2007; Stern and Heyneman, 2013; Härmä, 2015). Parents in developing countries are making decisions and choices about where to educate their children.

There is a paucity of research around choice and schooling in developing contexts with little carried out in post conflict zones. One piece of research from

[2] www.oxfam.org.uk/
[3] data.worldbank.org/indicators/SE.PRM.CMPT.ZS
[4] data.worldbank.org/indicator/SP.DYN.LE00.IN/countries/LR?display-graph

Liberia considers the association between wealth and the likelihood of attending different school management types (Siaplay and Werker, 2013). Using secondary data from the Ministry of Education and the West African Examination Council the findings show that children from most income quintiles are able to access private and religious schools where standardized test results are stronger than government. Being richer and living in urban areas decreases the likelihood of attending a government school; the opposite is true for the poor in rural areas. Research from Sierra Leone (author and author, 2017) considered school choice decisions made by 954 households in Freetown and neighboring districts. As in the Liberian study cited above, household wealth increased the likelihood of choosing a non-government school. However, the older the child the more likely they were to attend government provided education. For girls parents were twice as likely to select an NGO school rather than a government one. However when 'safe environment' was shown to be an important parental preference for girls, government was preferred over private.

A number of studies around household choice and schooling have been carried out in other African countries including Nigeria, Ghana and Kenya (Tooley and Yngstrom, 2014; Härmä, 2013, 2011a, 2011b; Nishimura and Yamano, 2013; Akaguri, 2014; Rolleston and Adefeso-Olateju, 2014; Author et al., 2017). Parents were interviewed in schools in Nigeria in order to investigate perceptions of schooling and the reasons behind private and government school choice (Härmä, 2011a, 2011b). Private school choosers rated quality as a main preference criterion (64% Kwara State and 77% Lagos). Government choosers did not rate quality so highly (21% Kwara and 44% Lagos). Around one third of all parents interviewed in Lagos, and one third in government schools in Kwara, expressed the importance of affordability. In Lagos one third of parents stated the preference for schools being close to their homes. This study also found that a school's reputation and the relationships between school owners and parents were also important when making choices (Härmä, 2011a, 2011b).

A household survey made up of 1,005 households (Tooley and Yngstrom, 2014) from diverse income groups classified as poor, near poor and middle class in Lagos State, found that older children are more likely to attend government schools that private. Girls and boys were just as likely to attend government and

private schools, being equally represented across school types. Government schools were favoured over private around affordability, but parental preferences for private schools were based on quality criteria for all income groups. Children being safe, being 'looked after well' and learning in small classes were highlighted as parental reasons for choice (Tooley and Yngstrom, 2014). Class size has also shown to be important with regards choice in Kenya (Nishimura and Yamano, 2013). The study showed that as the pupil teacher ratio increased in government schools there was an increased likelihood of children transferring to private schools.

Affordability is regarded as an issue for choice in rural Kenya and Ghana. Children from poorer households have a lower probability of attending private schools due to low family income (Nishimura and Yamano, 2013; Akaguri, 2014). Parents in Ghana and Nigeria were shown to prefer private over government schools because of perceived quality education (examination results) and the attention children received in class (Rolleston and Adefeso-Olateju, 2014).

To summarize the literature set out above, parental choice places emphasis on school quality, reputation, proximity to home, affordability and safe environment. Regarding household characteristics the general consensus seems to show that the older the child the more likely they will attend a government school. However, the research shows mixed findings regarding gender and income effects.

3. Method

This paper presents data that were gathered as part of a larger research project funded by the Sir John Templeton Foundation. The project was undertaken in three post-conflict countries, Liberia, Sierra Leone and South Sudan. There were multiple components to the research, including a household survey only undertaken in Liberia and Sierra Leone[5]. This paper only considers data gathered from households in Doe Community, Monrovia, Liberia[i]. The research had two aims:

- to investigate how school choice is framed by parental preference including any gender differences;

[5] reported elsewhere (author and author, 2017)

- to investigate how school choice is framed by household characteristics.

This study differs from the majority of school choice research carried out in developing countries in three ways. First, the data were gathered in the household itself with the parent who stated they made the decisions around schooling. Schools, therefore, were not used as a springboard to find parents from particular school types. This study also uses revealed preference data, which relates to the parents actual choices rather than stated preference data, where the parents would have been presented with hypothetical choice situations around school choice. Second, this article sets out a more sophisticated statistical technique than used in previous research[6] carried out in developing countries, that is discrete choice theory, to try to gain a deeper understanding of how, by whom and why schools are chosen. However it is important to note the limitations of this approach in that multinomial logit cannot account for potential selection bias, omitted variable bias, and measurement error. Third, there is very little written about school choice in fragile states, such as Liberia, thus adding to the literature in this regard. These data were gathered in February 2013[7].

At the start of the survey parents were asked if it was possible for them to access all school types – government, private, faith based and community. Only those who indicated that it was an option for them to choose between all of the school management types were included in this data set. All parents were informed before the start of the household questionnaire that the purpose of the assessment exercise was to investigate parental choice around different types of school management that participation was voluntary, and that the results of the assessment would be kept strictly confidential and for research use only.

3.1 Procedure

The data reported in this article cover children from 1236 of the 1454 households, which originally participated in the Sir John Templeton Foundation

[6] Typically descriptive statistics.

[7] That is before the Ebola epidemic and prior to the announcement by the Liberian Ministry of Education in early 2016 to trial a public private partnership scheme, where a selection of private companies were to be contracted to run government primary schools.

research project. The criteria for their inclusion in this paper were if the household income allowed the choice between all types of schooling[8] and if the households were located specifically in the locality of Doe Community, one of the poorest of the seven slums in Monrovia. A team of 40 survey administrators under the supervision of a researcher from **[9] collected the data with in-country support provided by *The Development Initiatives Liberia Incorporated*. The administrators were grouped into pairs to carry out a systematic household survey. They had been given training specifically for this project. The survey administrators interviewed the head of the household in a random sample of homes. When there was either a non-response or the household was one without children then the team moved onto the next 'available' household. Regarding individual questions, there were no non-responses. As stated the household questionnaire was completed with the help of the administrators who were trained to ensure total response rate for their participants.

3.2 Data, Sample and Survey content

Of the 1236 households surveyed all had at least one child of school age. The mean number of children in the household was 3.18 with a standard deviation (SD) of 2.09. Schools attended in this sample included all types available in Monrovia (community, private proprietor, government and faith based mission). The survey focused on the decisions parents made for their eldest child currently attending school. The mean age for these children was 10.39 years (SD 3.184 years) and 52.8% were girls. Table 1 shows the school management type attended.

[Insert table 1 and figure 1 about here]

When looking at household characteristics by type of school attended there are many similarities. These include the language spoken at home, the majority speaking English (77%) and the number of children and adults in the household

[8] If a child was attending a government school (lowest monthly school cost see table 2 they were only selected for the subsample if their household income was equivalent to or greater than that of a household income of a child attending all of the other school management types - private, faith based mission and community

[9] to include name after peer review

(3.18 children and 5.4 adults). Sixty per cent of the parents reported they had not completed primary education and only 15.8% stated they had attended Secondary School. The great majority of the fathers reported working as unskilled labourers, market traders and fisherman (77.3%). Most families only had one earning family member (63.7%). Regarding household income figure 1 shows the percentages of households in each corresponding income decile and the school attended. Each decile category contains the complete range of school options (government, private, faith based mission and community). All households included in this data set stated that they had an income, which allowed all schools to be an option for their eldest child. Parents indicated they shared the decisions that were made around their children's schooling (43.6% fathers and 50.6% mothers). Regarding possessions, 76.4% of the families owned a mobile phone, with only 4.5% having a computer. Less than 4% possessed a motorbike.

[Insert table 2 about here]

When asked about sources of evidence used to inform choice parents stated they had a number of strategies. These included:

- Relatives, friends and neighbours;
- Community leaders;
- Children who were attending different schools;
- School visits;
- Observations of lessons;
- Discussions with teachers and school leaders;
- Examination performance at the school.

Parents were asked to provide the three main reasons for choosing their eldest child's school. The percentage of parents selecting the six most cited preferences is shown in Table 3. 'Quality of teaching' as well as 'safe and close to home' and 'strong disciplinary environment' were stated as the three most important by the majority of parents - 79.9%, 63.9% and 53.3% respectively.

Defining preferences where quality assessment is typically made through

informal methods can be quite subjective. First, for parents 'quality of teaching' typically implies that teachers attend school regularly (i.e., are not absent) and are committed and caring towards the children in their charge. Second regarding 'school reputation' the parents place emphasis on the reputation of the school proprietor and leader. Personal relationships within the community also foster reputation around safe environment and discipline. Third, parents believe that schools that are within walking distance for their child are 'close to home' and therefore 'trusted' within the community. Finally, regarding academic performance this is typically based on examination results but parents also value what they are familiar with, such as the amount of homework given and the number of times teachers mark their children's books.

[Insert table 3 about here]

The demographic household characteristics used as independent variables are set out below:

- Gender of the pupil (boy = 0, girl = 1);
- Pupil's age in years and fractions of a year;
- Total number of children in the family;
- Monthly school costs;
- Total number in the family;
- The Proportion of non-Government to Government schools in the community.

The following variable were collapsed into two categories to form dichotomous variable[10] with the mean as cut off points:

- Family Income (less than the mean LRD[11] 6,943 (£59.85) = 0, greater than the mean LRD 6,942 (£59.85) =1);

[10] The results of the four Wald statistics for these variables were not significant. Therefore collapsing these variables into two categories to form dichotomous variables seemed legitimate. Using the change in the likelihood ratio test to calculate the difference from the first model to the second gave $P[\chi^2(4) > 70.814]<0.001$. This indicated that the use of dichotomous covariates gave a good adjustment of the effects of the other covariates. Based on these results it was decided to use these four dichotomous variables (Hosmer and Lemeshow, 2000).

- Family Expenditure (less than the mean of LRD 4,829 (£41.63) = 0, greater than the mean of LRD 4,829 (£41.63) = 1);
- Highest Level of Education in the Household (no education or primary level only = 0, above primary level = 1);
- Occupation (unemployed = 0, employed = 1).

The household survey asked a number of questions around family possessions and wealth. It was necessary to collapse some of them into a smaller set of combined factors, otherwise there would be too many independent variables to fit a sensible model to the data. These have been combined into a smaller set of measures using principal factor analysis, rotated using the Varimax procedure. A 2-factor solution was found to be optimal. The combined factors were given the following descriptions:

- **Factor 1** – Wealth 1 - Electric: Cell Phone, Computer, TV, DVD, generator;
- **Factor 2** – Wealth 2 - Transport and farming: motorbike, truck, tractor, canoe, cattle, farm animals.

These two factors explain 34.2% of the variation in this set of data. Factor scores for these wealth factors were derived for each pupil and standardised to a mean of 50 and standard deviation of 10.

3.3 Empirical Strategy

Multinomial logistic regression (MNL) is used to estimate the following equation:

$$C_i = \alpha + \boldsymbol{\beta}\, \mathbf{D_i} + \boldsymbol{\gamma} \mathbf{P_i} + \varepsilon_i$$

C_i is the type of school that parent i has selected for their child. $\mathbf{D_i}$ is the vector controlling for household, parent and child demographic characteristics. These include gender, age, number in the household and number of children, parent's occupation and highest education, household income and expenditure, cost of schooling to the family, two wealth factors, and the proportion of non-government schools in the households community. $\mathbf{P_i}$ is a vector of each household's preferences for a set of school characteristics and ε_i is the

[11] LRD = Liberian Dollar exchange rate as per June 2016 £1=LRD=116

unobserved factors.

This research sets out the results of the Multinomial Logit Model (MNL):

$$\Pr(C_i = s) = \exp(\alpha_s + \beta_s D_i + \gamma_s P_i) \Big/ \sum_{s=0}^{3} \exp(\alpha_s + \beta_s D_i + \gamma_s P_i)$$

where s is the choice of enrolments: Government (s=0); Private (s=1); Faith Based Mission (s=2); Community (s=3).

By estimating this MNL model we can directly test whether the household preferences and demographics affect the choice of attending different school management types. This model assumes that all parents had the option to select any of the school types.

4. Results

The coefficient estimates of the MNL model[12] in terms of odds ratios with the base group being government schools are shown in Table 4. Each coefficient indicates the change in the odds that a parent selects a given type of school instead of a government school for a one standard deviation increase in the preference for the respective school characteristic (Long, 1997).

[Insert table 4 about here]

Four parental preferences around school choice are shown to be statistically significant. Parents who stated a preference when selecting schools for their children by them being 'safe and close to home' are more likely to send their children to a faith based mission and community schools. The results show the likelihood of parents selecting a faith based mission school is approximately 2 times and for community 4.45 times as large as the likelihood of selecting a government school for every 1 SD increase in the preference rating ($p < 0.05$ and $p < 0.01$ respectively). Parents who state that affordability is a preference are

[12] Measures show that the model fits the data well, with the likelihood ratio test ($\chi^2(54) = 415.328$, $p < 0.001$), implying that the model as a whole fits significantly better than an empty model with no predictors. Pseudo-R^2 likelihood ratio indices: 15% (McFadden, 1974), 29.4% (Cox and Snell, 1989) to 32.6% (Nagelkerke, 1991).

more likely to send their children to government than all other types of school. All else equal, a 1 SD increase in the preference indicator of affordability is associated with a decrease in the likelihood of selecting private, faith based mission or community schools instead of government by a factor of 0.232 ($p<0.01$), 0.192 ($p<0.01$) and 0.439 ($p<0.05$) respectively. Regarding strong disciplinary environment and school reputation parents are more likely to send their children to government rather than private or faith based mission when stating these preferences.

Individual characteristics show a general pattern across all non-government schools. There is a decrease in the likelihood of parents sending a child to these types of schools, as the child gets older. Regarding gender, there is an increase in the likelihood that girls attend community schools rather than government ones. Parents are just over one and a half times as likely to select a community school for their girls than government. The more children in the family the more likely the child is to attend a government school over private and faith based mission schools. However, where the child lives in a larger family unit the likelihood of attend private and faith based mission over government increases significantly (2.214 ($p<0.05$); 1.75 ($p<0.05$)). Parents with higher family incomes and access to electricity and associated possessions (Wealth 1) are more likely to select faith based mission schools as opposed to government. Increasing the income characteristic by 1 SD increases the likelihood of selecting a faith based mission school by a factor of 1.697 ($p< 0.05$). The Wealth 1 indicator suggests that households are 1.74 ($p<0.01$) times more likely to select a faith based mission school than a government school for every 1 SD increase in this wealth rating. The Wealth 1 indicator also shows that this is true for private and community school but with slightly lower factors of 1.374 ($p<0.05$) and 1.324 ($p<0.1$) respectively. Across the board higher school costs imply a likelihood of not attending a government school. It is interesting to note that both occupation and the highest household education are not significant for all school types.

The proportion of non-government to government schools in the community seems to affect choice when a household is deciding where to send their child. Parents sending their children to private proprietor, faith based

mission and community schools prefer to keep their child in non-government education as the number of government schools increases in their community.

Running the MNL model for boys and girls separately highlights some interesting areas (Table 5 and 6). First, as the number in the household unit increases so does the likelihood that a girl will attend private proprietor or faith based mission schools. Second only for girls, parents' preferences around school reputation are associated with a decrease in the likelihood of selecting a private school or faith based mission as opposed to a government one by a factor of 0.324 ($p<0.05$) and 0.400 ($p<0.1$). And finally a parental preference for a local school with a safe environment is associated with an increase in selecting all other school types rather than a government school for boys.

[insert tables 5 and 6 about here]

5. Discussion

There is little written about parental choice in developing countries that are recovering from conflict. It is now recognized that in Liberia, 13 years after the end of the civil war in 2003, the government as well as international agencies are focusing on the provision of schooling. There is urgency around the issues of unequal access to education and the fragility this brings including resentment, instability and the lack of trust in government. The Liberian government has initiated a range of educational reforms since the end of the civil war. However this research shows that parents may still not trust sending their children to government run schools (especially boys) when parental preference is for a local school with a safe environment. Parents in the Liberian context and its post conflict status are still very much aware of the abduction and violation of children that took place both before and during the conflict in school settings. Safety is also regarded as important in other country studies (Tooley and Yngstrom, 2014; Härmä, 2011a, 2011b).

When considering the literature, quality has been shown to be a main preference criterion for private school choosers (Härmä, 2011a, 2011b; Tooley and Yngstrom, 2014). The research here from Liberia agrees, where almost 80%

of parents selected this criterion as one of their three main reasons for choosing their eldest child's school. However quality is not shown as significant in the empirical model as parents value this preference regardless of school type, this is also found to be true in other post conflict areas (Author and Author, 2017). In other African settings government schools are favoured over private around affordability (Tooley and Yngstrom, 2014; Rolleston and Adefeso-Olateju, 2014; Härmä, 2011b, 2013). In the Liberian setting parental preference of affordability was also highlighted as statistically significantly important regarding the likelihood the child attends a government school. In Nigeria it was found that school's reputation and relationships between school owners was important (Härmä, 2011a, 2011b). School reputation and strong disciplinary environment were significant preference indicators for parents in the Doe Community. Until now strong disciplinary environment had not been identified as a significant identifier in other contexts apart from one study from another post conflict area (Author and Author, 2017). In a study from Western Area, Sierra Leone, parents also indicated a preference around strong discipline (Author and Author, 2017).

Certain household characteristics are also indicators of the likelihood of attending certain types of school. In this post conflict situation, the older the child the more likely they are to attend a government school. A child's gender seems to increase the likelihood of attending different school management types over others. Being a girl implies attending a community based school rather than a government. Parents who state a preference for safety for their girls prefer community schools to government, for boys all school types are preferred to government[13]. In non-post conflict school choice literature gender does not seem to affect the likelihood of attending a specific school type but age does (Tooley and Yngstrom, 2014). Regarding gender and age when considering school choice in other post conflict areas (specifically Western Area, Sierra Leone), again the older the child the more likely they will attend a government school. However as in the Liberian context, a child's gender increases the likelihood of attending different school management types over others. Being a girl implies attending an NGO rather than a government and a government over a faith based mission school (Author and Author, 2017). Establishing parental trust regarding sending

[13] When running the MNL separately for boys and girls

children of both genders to school may take time, hence the disparity with the literature from non-post conflict countries.

The increased economic well-being of a family tends to increase the likelihood of the child choosing a non-government school agreeing with the findings of Siaplay and Werker (2013) from Liberia and Author and Author (2017) from Sierra Leone. Costs of schools and the proportion of non-government to government schools both affect parental choice.

The policies implemented by the government in Liberia, especially around the introduction of free primary and compulsory education, do not seem to have limited parental choice to free fee government schooling. Different school management types are offering education provision to parents. This research suggests that parents living in difficult circumstances, having faced the troubles associated with war and conflict are active choosers. Greater inquiry is needed around the topic of school choice in such situations and the policy implications these engender.

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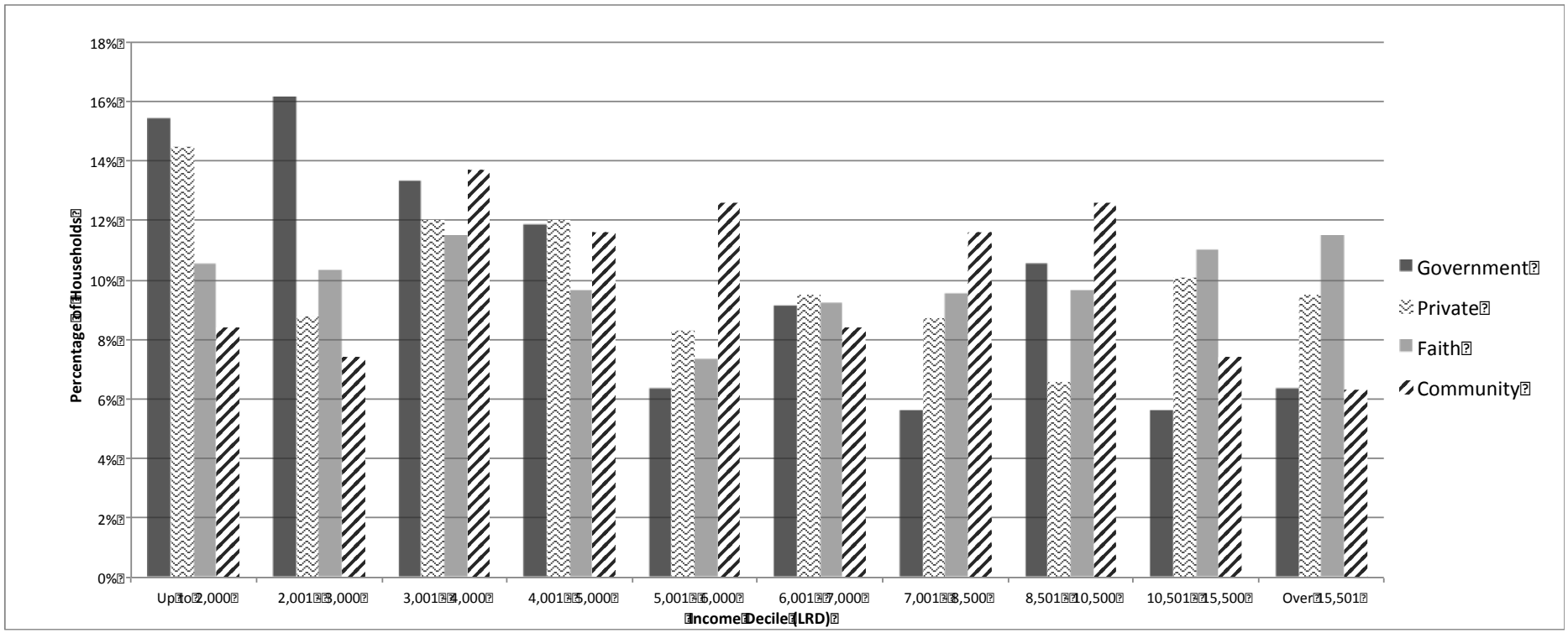
Table 1 School type attended by the eldest child in the household

	Eldest child	Percent
Government	171	13.8
Private Proprietor	297	24.0
Faith Based Mission	664	53.7
Community	104	8.4
Total	1236	100.0

Figure 1 School choice by family income decile



Note: Percentage of the 1236 households in each income (LRD) decile by school management type attended.

Table 2 Characteristics of child's household by type of school attending

Item	Government	Private Proprietor	Faith Based Mission	Community	Total
Language spoken at home					
English	78.7	77.3	76.6	75.7	77.0
Grebo	8.5	8.7	8.3	3.9	8.1
Kru	3.0	1.0	2.0	4.9	2.2
Kpelle	1.8	3.1	2.6	2.9	2.7
Other	8.0	9.9	10.5	12.6	10.0
Total number in household♯	5.85	5.32	5.31	5.46	5.40
Children in household♯	3.67	3.03	3.10	3.34	3.18
Highest household education level					
No schooling or Primary only	62.5	58.9	61.1	56.7	60.4
Above Primary	37.5	41.1	38.9	43.3	39.6
Occupation					
Employed (laborers, fishermen, market)	73.1	79.1	77.7	76.0	77.3
Unemployed	26.9	20.9	22.3	24.0	22.7
Monthly Household Income ♯(LRD; £)	5175 (£44.61)	6930 (£59.74)	7462 (£64.33)	6571 (£56.65)	6943 (£59.85)
Monthly Household Expenditure ♯(LRD; £)	3471 (£29.92)	5754 (£49.60)	4626 (£39.88)	5701 (£49.15)	4829 (£41.63)
Monthly school cost ♯(LRD; £)	198 (£1.71)	615 (£5.30)	573 (£4.94)	553 (£4.77)	531 (£4.58)
Household assets					
Generator	8.3	20.9	26.8	17.3	22.0
TV	9.4	23.3	29.7	19.2	24.5
Cellphone	70.6	76.7	77.8	76.0	76.4
Computer	2.4	4.7	4.2	8.7	4.5
Motorbike	0.6	2.7	4.2	2.9	3.2
Car	1.2	2.4	2.7	1.9	2.4

Note: ♯denotes results that are averages, all others are percentages – Currency 116 (Liberian Dollar) = £1; Monthly expenditure is based on cost for food, fuel, rent and mobile phone charges.

Table 3 Parent's preferences for various school characteristics

Preference	Important	Not important
Affordability	26.8	73.2
Strong disciplinary environment	53.3	46.7
Safe and close to home	63.9	36.1
School reputation	27.5	72.5
Academic performance	32.1	67.9
Quality of teaching	79.9	20.1

Note: 1236 households, % of parents selecting the six most cited preferences.

Table 4 Estimates of the Empirical Model

	School Type		
	Private Proprietor	Faith Based Mission	Community
Parental preferences			
Affordability	0.232*** (0.356)	0.192***(0.324)	0.439**(0.432)
Strong disciplinary environment	0.563*(0.349)	0.571*(0.325)	0.818(0.430)
Safe and close to home	1.812(0.371)	2.045**(0.340)	4.450***(0.469)
School reputation	0.520 (0.365)	0.549*(0.335)	0.807(0.447)
Academic performance	0.979(0.388)	0.821(0.359)	1.113(0.476)
Quality of teaching	1.363(0.371)	1.556(0.341)	1.692(0.447)
Household characteristics			
Gender (Girl=1)	1.140(0.235)	0.791(0.214)	1.627*(0.284)
Age	0.247***(0.051)	0.379***(0.048)	0.403***(0.058)
No. of children in family	0.448***(0.145)	0.523***(0.134)	0.709(0.176)
Total number in family	2.214**(0.110)	1.750**(0.103)	1.343(0.136)
School costs	2.702***(0.088)	2.029***(0.080)	1.886***(0.104)
Wealth 1	1.374**(0.015)	1.740***(0.014)	1.324*(0.018)
Wealth 2	0.986(0.017)	1.153(0.015)	1.465(0.016)
Family Expenditure	1.402(0.310)	1.350(0.285)	1.201(0.366)
Family income	1.347(0.261)	1.697**(0.239)	1.489(0.309)
Highest Household Education	1.018(0.239)	1.020(0.218)	0.892(0.287)
Occupation	1.311(0.286)	0.983(0.268)	1.176(0.342)
Proportion of non-Gov/Gov	1.372***(0.012)	1.557***(0.011)	1.421***(0.018)
Constant	1.507(1.700)	0.268(1.572)	0.654(1.947)

Note: Analysis includes 1,236 observations. Omitted category for school type is the base group of Government schools. Coefficient estimates of the MNL model are given in terms of odds ratios with standard errors in parenthesis. *p < 0.10; **p <0.05; ***p < 0.01

Table 5 Estimates of the Empirical Model – Boys only

	School Type		
	Private Proprietor	Faith Based Mission	Community
Parental preferences			
Affordability	0.415*(0.483)	0.363** (0.443)	0.423 (0.567)
Strong disciplinary environment	0.728 (0.465)	0.742 (0.435)	0.621 (0.544)
Safe and close to home	3.808*** (0.522)	3.845*** (0.489)	5.905*** (0.615)
School reputation	0.784(0.511)	0.731 (0.476)	0.838 (0.601)
Academic performance	11.405 (0.535)	1.330 (0.500)	1.329 (0.619)
Quality of teaching	2.156 (0.503)	2.093 (0.465)	2.253 (0.580)
Household characteristics			
Age	0.200***(0.081)	0.285*** (0.078)	0.288***(0.089)
No. of children in family	0.658 (0.195)	0.705 (0.184)	1.093 (0.239)
Total number in family	1.490 (0.148)	1.191 (0.140)	0.897 (0.186)
School costs	2.707*** (0.127)	2.098*** (0.117)	2.227*** (0.144)
Wealth 1	1.181 (0.020)	1.501**(0.019)	1.392 (0.022)
Wealth 2	0.887 (0.023)	1.010 (0.019)	1.048 (0.021)
Family Expenditure	1.267 (0.429)	1.263 (0.396)	01.137 (0.484)
Family income	1.220 (0.367)	1.522 (0.339)	1.055 (0.428)
Highest Household Education	0.696 (0.339)	0.791 (0.313)	0.603 (0.398)
Occupation	1.581 (0.411)	1.480 (0.386)	1.705 (0.471)
Proportion of non-Gov/Gov	1.445**(0.018)	1.518*** (0.017)	1.407***(0.025)
Constant	7.957 (2.277)	1.190 (2.047)	0.134 (2.479)

Note: Analysis includes 584 observations. Omitted category for school type is the base group of Government schools. Coefficient estimates of the MNL model are given in terms of odds ratios with standard errors in parenthesis. *p < 0.10; **p <0.05; ***p < 0.01

Table 6 Estimates of the Empirical Model – Girls only

	School Type		
	Private Proprietor	Faith Based Mission	Community
Parental preferences			
Affordability	0.105*** (0.551)	0.086***(0.498)	0.591 (0.688)
Strong disciplinary environment	0.338** (0.548)	0.354** (0.509)	1.257 (0.710)
Safe and close to home	0.797 (0.558)	1.045 (0.503)	4.641** (0.748)
School reputation	0.324** (0.550)	0.400* (0.498)	0.972 (0.674)
Academic performance	0.548 (0.586)	0.432 (0.541)	1.090 (0.771)
Quality of teaching	0.842 (0.570)	1.185 (0.523)	1.860 (0.732)
Household characteristics			
Age	0.266***(0.067)	0.444***(0.064)	0.510***(0.081)
No. of children in family	0.299*** (0.230)	0.365** (0.211)	0.461 (0.281)
Total number in family	4.101** (0.175)	2.984** (0.165)	2.291 (0.212)
School costs	2.743*** (0.129)	1.952** (0.115)	1.439 (0.158)
Wealth 1	2.002** (0.029)	2.540***(0.028)	1.349 (0.035)
Wealth 2	1.333 (0.039)	1.660 (0.038)	2.476 (0.039)
Family Expenditure	1.478 (0.484)	1.333 (0.443)	0.979 (0.580)
Family income	1.502 (0.396)	2.011* (0.362)	2.278* (0.478)
Highest Household Education	1.440 (0.354)	1.353 (0.322)	1.212 (0.438)
Occupation	1.022 (0.418)	0.582 (0.392)	0.738 (0.529)
Proportion of non-Gov/Gov	1.328* (0.017)	1.594*** (0.016)	1.486*** (0.027)
Constant	0.119 (3.165)	0.016 (3.050)	0.001** (3.597)

Note: Analysis includes 652 observations. Omitted category for school type is the base group of Government schools. Coefficient estimates of the MNL model are given in terms of odds ratios with standard errors in parenthesis *p < 0.10; **p <0.05; ***p < 0.01

[i] The data reported in this article is taken from 1,236 of the 1,981 households, which originally participated in the Sir John Templeton project. The criteria for their inclusion in this paper were that the household had an income that allowed all schools to be an option for the child, (i.e. if a child was attending a government school they were only selected for the subsample if their household income was equivalent to or greater than that of a household income of a child attending the other school types).